## JC09 Rec'd PCT/PTO 28 SEP 2005

WO 2004/085158

PCT/EP2004/050157

## Claims

- 1. A device for storing at least two dressings (01, 36, 37) drawn one after the other off the same cylinder (06, 31, 33) of a printing press, characterized in that the dressings (01, 36, 37) removed one after the other from the cylinder (06, 31, 33) are stored along their length (L) at an inclination angle (delta) of at most 15° in relation to a horizontal line (H), wherein the dressing (01, 36, 37) which was removed after a previous dressing (01, 36, 37) is vertically stored at a distance along its length (L) underneath the previously stored dressing (01, 36, 37).
- 2. The device in accordance with claim 1, characterized in that a first chute (41, 44) is provided, wherein the dressings (01, 36, 37), which are sequentially drawn off the same cylinder (06, 31, 33), are stored in the first chute (41, 42).
- 3. The device in accordance with claim 2, characterized in that at least two dressings (01, 36, 37) can be stored in the first chute (41, 42) side-by-side in the axial direction of the cylinder (06, 31, 33).
- 4. The device in accordance with claim 1, characterized in that at least two dressings (01, 36, 37) can be arranged in the axial direction of the cylinder (06, 31, 33).
- 5. The device in accordance with claim 1, characterized in that at least four dressings (01, 35, 37) can be arranged in the axial direction of the cylinder (06, 31, 33).

- 6. The device in accordance with claim 2, characterized in that at least two first chutes (41, 42) are arranged side-by-side in the axial direction of the cylinder (06, 31, 33).
- 7. The device in accordance with claim 1, characterized in that at least two dressings (01, 36, 37) can be arranged along the circumference of the cylinder (06, 31, 33).
- 8. The device in accordance with claim 2, characterized in that at least as many dressings (01, 36, 37) can be stored in the first chute (41, 42) as dressings (01, 36, 37) can be arranged along the circumference of the cylinder (06, 31, 33).
- 9. The device in accordance with claim 1, characterized in that the storage of the dressings (01, 36, 37) on top of each other takes place in a stack.
- 10. The device in accordance with claim 1, characterized in that each dressing (01, 31, 37) has a leading end (03) and a trailing end (04) in relation to the production direction (P) of the cylinder (06, 31, 33), wherein a beveled suspension leg (14) is formed at least at the trailing end (04).
- 11. The device in accordance with claim 10, characterized in that the suspension leg (14) at the trailing end (04) is beveled off at an opening angle ( $\beta$ 1) of greater than 80° or an obtuse angle in respect to the extended length (L) of the dressing (01, 36, 37).

- 12. The device in accordance with claim 10, characterized in that a suspension leg (13) beveled off at the leading end (03) is beveled at an acute opening angle ( $\alpha$ 1) in respect to the extended length (L) of the dressing (01, 36, 37).
- 13. The device in accordance with claim 2, characterized in that a second chute (43, 44) is provided, wherein the second chute (43, 44) stores at least one dressing (01, 36, 37) to be arranged on the cylinder (06, 31, 33).
- 14. The device in accordance with claim 13, characterized in that the first chute (41, 42) and the second chute (43, 44) are arranged on top of each other.
- 15. The device in accordance with claim 1, characterized in that the cylinder (06, 31, 33) is embodied as a forme cylinder (06, 31, 33).
- 16. The device in accordance with claim 1, characterized in that the dressing (01, 36, 37) is embodied as a printing forme (01, 36, 37).
- 17. The device in accordance with claim 2, characterized in that a support (72, 54) is provided in the chutes (41, 42, 43, 44).
- 18. The device in accordance with claim 17, characterized in that the support (72, 54) is embodied in the form of parallel strips (72, 54) or sliding rails (72, 54).

- 19. The device in accordance with claim 17, characterized in that the support (72) in the first chute (41, 42) is inclined at the inclination angle (delta) in respect to the horizontal line (H).
- 20. The device in accordance with claim 19, characterized in that the inclination angle (delta) is between 5° and 15°.
- 21. The device in accordance with claim 2, characterized in that a guide element (73) for inserting the dressing (01, 36, 37) into the first chute (41, 42) is provided near the cylinder (06, 31, 33).
- 22. The device in accordance with claim 21, characterized in that the guide element (73) is embodied as a wedge (73) or a rolling element (73).
- 23. The device in accordance with claim 21, characterized in that the guide element (73) is arranged at a distance (a73) from the cylinder (06, 31, 33), wherein the distance (a73) has a value between a single and double length (l14) of the suspension leg (14) at the trailing end (04) of the dressing (01, 36, 37).
- 24. The device in accordance with claim 21, characterized in that a sensor (91) is provided on the guide element (73) wherein, prior to conveying and storing the dressing (01, 36, 37), the sensor (91) checks whether the suspension leg (14) at the trailing end (04) of the dressing (01, 36, 37) to be removed has been released from the cylinder (06, 31, 33).

- 25. The device in accordance with claim 24, characterized in that the sensor (91) checks the release of the suspension leg (14) in a contactless manner or by contact with the dressing (01, 36, 37).
- 26. The device in accordance with claim 24, characterized in that the sensor (91) is embodied as an inductive sensor (91).
- 27. The device in accordance with claim 24, characterized in that the sensor (91) several sensors (91) are provided on the guide element (73) in the axial direction of the cylinder (06, 31, 33).
- 28. The device in accordance with claim 27, characterized in that as many sensors (91) are provided as dressings (01, 36, 37) can be arranged side-by-side in the axial direction of the cylinder (06, 31, 33).
- 29. The device in accordance with claim 2, characterized in that a lifting device (82) is arranged in the first chute (41, 42) on the side facing away from the cylinder (06, 31, 33).
- 30. The device in accordance with claim 29, characterized in that the lifting device (82) has a lifting arm (84), wherein the lifting arm (82) lifts the beveled suspension leg (14) at the trailing end (04) of the dressing (06, 31, 33) off the support (72).
- 31. The device in accordance with claim 29, characterized in that the lifting device (82) has two stable operating

positions, wherein in a first stable operating position the lifting arm (84) is located below the level defined by the support (72), and in a further stable operating position the lifting arm (84) lifts the dressing (01, 36, 37), which has been removed from the cylinder (06, 31, 33), off the support (72).

- 32. The device in accordance with claim 29, characterized in that the lifting device (82) performs a lift (s82) which has a value between a single and double length (l14) of the suspension leg (14).
- 33. The device in accordance with claim 2, characterized in that a securing element (86) is provided in the first chute (41, 42) on the side facing away from the cylinder (06, 31, 32), which secures a dressing (01, 36, 37) stored in the chute (41, 42) against sliding or unintentional removal from the chute (41, 42).
- 34. The device in accordance with claim 33, characterized in that the securing element (86) is pivotably arranged.
- 35. The device in accordance with claim 34, characterized in that a pivot axis of the securing element (86) extends parallel with the width (B) of the dressing (01, 36, 37).
- 36. The device in accordance with claim 33, characterized in that the securing element (86) is embodied as a strip-shaped flap (86).
- 37. The device in accordance with claim 13, characterized in that the dressings (01, 36, 37) are arranged on at least two

different levels in the chute (41, 42, 43, 44).

- 38. The device in accordance with claim 37, characterized in that the dressings (01, 36, 37) are alternatingly arranged in the axial direction of the cylinder (06, 31, 33) on two different levels in the chute (41, 42, 43, 44).
- 39. The device in accordance with claim 37, characterized in that the levels are arranged offset vertically in respect to each other.
- 40. The device in accordance with claim 1, characterized in that in its storage position each dressing (01, 36, 37) is held in guide rails (64) extending on its longitudinal sides.
- 41. The device in accordance with claim 1, characterized in that at least one stop (67) is provided, which acts perpendicularly in respect to the support surface (02) of the stored dressing (01, 36, 37).
- 42. The device in accordance with claim 41, characterized in that the stop (67) is rigidly arranged.
- 43. The device in accordance with claims 40 and 41, characterized in that the dressing (01, 36, 37) contacts the stop (67) with its side supported by the guide rail (64), while the guide rail by its movement removes its support from the dressing (01, 36, 37).
  - 44. The device in accordance with claim 41, characterized

PCT/EP2004/050157

WO 2004/085158

in that two side-by-side arranged adjoining dressings (01, 36, 37) contact the same stop (67) at opposite sides.

- 45. The device in accordance with claim 39, characterized in that the vertical offset of the levels corresponds to the single to double structural height of the guide rails (64).
- 46. The device in accordance with claim 1, characterized in that the printing press has at least two printing groups.
- 47. The device in accordance with claim 46, characterized in that a material (46) passing through the printing groups passes vertically through the printing groups.
- 48. The device in accordance with claim 1, characterized in that the printing press is designed as a multi-color offset printing press.
- 49. The device in accordance with claim 1, characterized in that the cylinder (06, 31, 33) moves the dressings (01, 36, 37) off tangentially.
- 50. A method for storing at least two dressings (01, 36, 37) drawn one after the other off the same cylinder (06, 31, 33) of a printing press, characterized in that the dressings (01, 36, 37) are removed from the cylinder (06, 31, 33) and are stored along their length (L) inclined at an inclination angle (delta) of at most 15° in relation to a horizontal line (H), wherein the dressing (01, 36, 37) which is removed after a previous dressing (01, 36, 37) was removed is stored at a distance along its length

- (L) vertically underneath the previously removed dressing (01, 36, 37).
- 51. The method in accordance with claim 50, characterized in that the dressing (01, 36, 37) is tangentially removed from the cylinder (06, 31, 33).
- 52. The method in accordance with claim 50, characterized in that the dressing is removed by a rotation of the cylinder (06, 31, 33) opposite its production direction (P).
- 53. The method in accordance with claim 50, characterized in that the previously removed dressing (01, 36, 37) is lifted at least at its trailing end (04) for taking up its storage position.
- 54. The method in accordance with claim 53, characterized in that the previously removed dressing (01, 36, 37) is lifted at its trailing end (04) orthogonally in respect to its support surface (02).
- 55. The method in accordance with claim 53, characterized in that the previously removed dressing (01, 36, 37) is lifted at its trailing end (04) orthogonally in respect to its support surface (02) to a height (h89), wherein the height (h89) has a value which is greater than a length (114) of a beveled suspension leg (14) at the trailing end (04) of the dressing (01, 36, 37) subsequently removed.
- 56. The method in accordance with claim 55, characterized in that the height (h89) has a value between the single and double

length (114) of the beveled suspension leg (14) at the trailing end (04) of the dressing (01, 36, 37) subsequently removed.

- 57. The method in accordance with claim 50, characterized in that in its storage position a leading end (03) of the previously removed dressing (01, 36, 37) rests on a first ramp (74).
- 58. The method in accordance with claim 57, characterized in that the leading end (03) of the previously removed dressing (01, 36, 37) rests on a high point (76) of the first ramp (74) with a projection oriented toward the cylinder (06, 31, 33).
- 59. The method in accordance with claim 50, characterized in that in the course of its being transported into its storage position, the subsequently removed dressing (01, 36, 37) lifts the leading end (03) of the previously removed dressing (01, 36, 37).
- 60. The method in accordance with claim 50, characterized in that in the course of its being transported into its storage position, the dressing (01, 36, 37) removed from the cylinder (06, 31, 33) is hooked with its suspension leg (14) beveled off its trailing end (04) on a conveying device, wherein the conveying device transports the dressing (01, 36, 37) into its storage position.
- 61. A method for storing a dressing (01, 36, 37) to be removed from a cylinder (06, 31, 33), characterized in that a check is made prior to transporting and storing the dressing (01, 36, 37) whether a suspension leg (14) at the trailing end (04) of

PCT/EP2004/050157

WO 2004/085158

the dressing (01, 36, 37) which is at least still partially arranged on and is to be removed from it, has been released from the cylinder (06, 31, 33).

- 62. The method in accordance with claim 61, characterized in that the dressing (01, 36, 37) is transported into its storage position only after the suspension leg (14) at the trailing end (04) of the dressing (01, 36, 37) to be removed has been released from the cylinder (06, 31, 33).
- 63. The method in accordance with claim 61, characterized in that the dressing (01, 36, 37) is transported into its storage position by means of a rotation of the cylinder (06, 31, 33) counter to its production direction (P).
- 64. The method in accordance with claim 61, characterized in that the dressing (01, 36, 37) is transported into its storage position in a linear movement.
- 65. The method in accordance with claim 61, characterized in that the dressing (01, 36, 37) is pulled into its storage position.
- 66. The method in accordance with claim 61, characterized in that the dressing (01, 36, 37) is transported into its storage position by means of a conveying device (80).
- 67. The method in accordance with claim 66, characterized in that the conveying device (80) grips the suspension leg (14) at the trailing end (04) of the dressing (01, 36, 37) to be removed

from behind and pulls the dressing (01, 36, 37) into its storage position.

- 68. A method for storing a dressing (01, 36, 37) to be removed from a cylinder (06, 31, 33) of a printing press, characterized in that the dressing (01, 36, 37) removed from the cylinder (06, 31, 33) to be stored along its length (L) at an inclination angle (delta) of at most 15° in relation to a horizontal line (H), is lifted by means of a lifting device (82) from a temporary first storage position into a final second storage position.
- 69. The method in accordance with claim 68, characterized in that the lifting device (82) lifts the beveled off suspension leg (14) at the trailing end (04) of the dressings (01, 36, 37) from the first storage position into the second storage position.
- 70. The method in accordance with claim 68, characterized in that the dressing (01, 36, 37) to be stored, which has been lifted into its final second storage position is secured against slipping or unintentional removal from its final storage position by means of a securing element (86).
- 71. A method for storing at least two dressings (01, 36, 37) drawn one after the other off the same cylinder (06, 31, 33) of a printing press, wherein a dressing (01, 36, 37) previously removed from the cylinder (06, 31, 33) is transported from a first into a second storage position. wherein the dressing (01, 36, 37) removed after the previously removed dressing (01, 36, 37) is stored in the first storage position of the previously removed

dressing (01, 36, 37), wherein the previously removed dressing (01, 36, 37) is stored in its second storage position and the subsequently removed dressing (01 36, 37) is stored in the first storage position of the previously removed dressing (01, 36, 37) at a distance which is orthogonal along their length (L), characterized in that the dressings (01, 36, 37) are stored so that they overlap each other at least to a large degree with their respective support surface (02).

- 72. The method in accordance with claim 71, characterized in that the previously removed dressing (01, 36, 37) is transported by means of a linear movement from its first storage position into its second storage position.
- 73. The method in accordance with claim 72, characterized in that the linear movement takes place orthogonally in respect to the support surface (02) of the previously removed dressing (01, 36, 37).
- 74. A method for storing at least two dressings (01, 36, 37) drawn one after the other off the same cylinder (06, 31, 33) of a printing press, wherein a dressing (01, 36, 37) previously removed from the cylinder (06, 31, 33) is transported from a first into a second storage position. wherein the dressing (01, 36, 37) removed after the previously removed dressing (01, 36, 37) is stored in the first storage position of the previously removed dressing (01, 36, 37), wherein the previously removed dressing (01, 36, 37) is stored in its second storage position and the subsequently removed dressing (01 36, 37) is stored in the first storage position of the previously removed dressing (01, 36, 37)

at a distance which is orthogonal along their length (L), characterized in that the previously removed dressing (01, 36, 37) is transported by means of a linear movement from its first storage position into its second storage position.

- 75. The method in accordance with claim 74, characterized in that they overlap each other at least to a large degree with their respective support surface (02).
- 76. The method in accordance with claim 71 or 75, characterized in that the previously removed dressing (01, 36, 37) and the subsequently removed dressing (01, 36, 37) are stored in such a way that their respective support surfaces (02) overlap at least by 80%.
- 77. The method in accordance with claim 71 or 75, characterized in that the previously removed dressing (01, 36, 37) and the subsequently removed dressing (01, 36, 37) are stored in such a way that their respective support surfaces (02) overlap almost completely.
- 78. The method in accordance with claim 71 or 74, characterized in that the previously removed dressing (01, 36, 37) and the subsequently removed dressing (01, 36, 37) are stored vertically spaced apart from each other along their length (L).
- 79. The method in accordance with claim 71 or 74, characterized in that the previously removed dressing (01, 36, 37) and the subsequently removed dressing (01, 36, 37) are stored horizontally spaced apart from each other along their length (L).

PCT/EP2004/050157

WO 2004/085158

80. The method in accordance with claim 71 or 74, characterized in that the previously removed dressing (01, 36, 37) is moved into its second storage position by a movement of its trailing end (04).